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Summary

Description **English:** Drawing of an early spark radio transmitter built by British physicist Oliver Lodge for a lecture-demonstration before the British Royal Society 1 June 1894 on the occasion of Heinrich Hertz's death, which was later published as a book. It consists of a 5 in. metal ball resonator flanked by two 1/2 inch metal balls separated by spark gaps. When high voltage pulses from an induction coil are applied to the side balls, the current jumps the gaps to get from one side ball to the other through the center ball. The sparks excite brief standing waveoscillations in the center ball, which emits the energy as pulses of microwaves. Lodge demonstrated that the waves could be detected by a coherer at a distance of 20-30 yards (20-30 m).

The source says wavelength of the waves emitted is about 1.5 times the diameter of the center resonator ball, which for a 5" ball would be 19 cm, or a frequency of 2.5 GHz. The ball is a highly damped oscillator, only producing a few waves before the oscillations die out.

Date 1894

Source Retrieved 21 February 2018 from Silvanus Phillips Thompson (1897) *Light Visible and Invisible: A Series of Lectures Delivered at the Royal Institution of Great Britain, at Christmas, 1896*, The MacMillan Co., New York, p. 222, fig. 121a on Google Books

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